CLAIM AMENDMENTS

This listing of the claims will replace all prior versions, and listings, of claims in the application.

- 1. (Currently amended) A method of identifying a device, the method comprising: receiving a request to establish a Point to Point Protocol over Ethernet (PPPoE) session on behalf of a Local Area Network (LAN) side device that is a LAN node in a LAN that is in communication with a router;
- outputting a PPPoE discovery stage packet that comprises a tag identifying the LAN side device;
- receiving a different request to establish a different PPPoE session on behalf of a different LAN side device, the different LAN side device at a different LAN node of the LAN;
- outputting a different PPPoE discovery stage packet that comprises a different tag identifying the different LAN side device;
- receiving an access concentrator packet responsive to the PPPoE discovery stage packet, the access concentrator packet <u>including</u> the tag;
- recognizing the tag in the access concentrator packet;
- communicating the tag from the access concentrator packet to the LAN side device;
- enabling a Poi'nt to Point Protocol (PPP) session for the LAN side device, the LAN side
 - device that is identified as the requesting device of the PPP session; and
- enabling a different Point to Point Protocol (PPP) session for the different LAN side device, the different LAN side device that is identified as the requesting device of the different PPP session.
- 2. (Original) The method of claim 1, wherein the PPPoE discovery stage packet comprises a PPPoE Active Discovery Initiation packet.
- 3. (Original) The method of claim 1, further comprising maintaining information associating the LAN side device with the tag and the different LAN side device with the different tag.

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- 4-5. (Canceled).
- 6. (Previously presented) The method of claim 1, wherein the access concentrator packet comprises a PPPoE Active Discovery Offer packet and comprises the tag in an unmodified form.
- 7. (Original) The method of claim 1, wherein the tag complies with a Host-Uniq TAG construct described in IETF RFC 2516.
- 8. (Original) The method of claim 1, further comprising utilizing a PPPoE client executing at a node at least partially interconnecting a LAN to a wide area network node to generate the PPPoE discovery stage packet.
 - 9. (Canceled).
- 10. (Previously presented) The method of claim 1, further comprising disabling a Network Address Translation feature in connection with the PPP session.
- 11. (Original) The method of claim 1, further comprising receiving the request via a connection type selected from the group consisting of an Ethernet Link, an 802.11(x) link, a Bluetooth link, a Universal Serial Bus Link, and a powerline networking link.
- 12. (Original) The method of claim 1, further comprising utilizing a modem device to output the PPPoE discovery stage packet, wherein the modem device is selected from the group consisting of an xDSL modem, a cable modem, a fixed wireless modem and a satellite modem.
 - 13. (Previously presented) The method of claim 12, further comprising: utilizing the modem device to output the PPPoE discovery stage packet and the different PPPoE discovery stage packet; and
 - communicatively coupling the modem device and a plurality of other modem devices to an access concentrator node of a wide area network.

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- 14. (Currently amended) A device identification system, comprising:
- an access concentrator having a computing platform and an interface operable to facilitate a communicative coupling of a plurality of remote devices to the computing platform, wherein the access concentrator includes one of:
 - a cable modem termination system; and
 - a digital subscriber line access multiplexer;
- a second interface communicatively coupled to the computing platform and operable to facilitate an outputting of a collection of information representing a PPP session of a first of the plurality of remote devices and a different PPP session of a different one of the plurality of remote devices; and
- a Local Area Network (LAN) engine communicatively coupled to the interface and configured to recognize an identification tag in a packet included in a discovery stage of the PPP session, the identification tag identifying a subscriber LAN device communicating the packet via the first of the plurality of remote devices, wherein the subscriber LAN device is a LAN side device that is a LAN node in a LAN that is in communication with a router and is identified as the requesting device of the PPP session, and wherein the LAN engine is configured to recognize a different identification tag in a different packet included in a discovery stage of the different PPP session that identifies a different subscriber LAN device communicating the different packet via a different one of the plurality of remote devices and is a LAN side device that is a different LAN node in the LAN and is identified as the requesting device of the different PPP session; and
- wherein the LAN engine is at least partially embodied by a processor accessing a computer-readable medium having computer-readable instructions and executing the computer-readable instructions to recognize an existence of the tag, to identify device identification information contained in the tag, and to update a memory associated with a Broadband Remote Access Server to acknowledge the device identification information.

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- 15. (Original) The system of claim 14, wherein the tag complies with a Host-Uniq TAG construct described in IETF RFC 2516.
 - 16. (Canceled).
- 17. (Original) The system of claim 14, further comprising the first of the plurality of remote devices, wherein the first of the plurality of remote devices comprises an xDSL modem.
 - 18-19.(Canceled).
- 20. (Previously presented) The system of claim 14, wherein the Broadband Remote Access Server is communicatively coupled to the LAN engine and operable to maintain information representing the subscriber LAN device.

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21. (Currently amended) A method of identifying remote devices, comprising: receiving a PPPoE packet from a remote node;

recognizing that the PPPoE packet comprises a tag including information associated with a device communicating via the remote node, wherein the device and a different device are distinct LAN nodes in a LAN and are in communication with a router, wherein the device is identified as communicating via the remote node and requesting a Point to Point Protocol (PPP) session, wherein the device is selected from a group consisting of:

- a computer;
- a wireless access point;
- a Universal Serial Bus Device;
- a Voice over Internet Protocol Telephone;
- a television;
- a set-top box;
- a refrigerator;
- a washing machine; and
- a home networking device;

receiving another PPPoE packet from the remote node;

recognizing that the other PPPoE packet comprises a different tag including other information associated with a <u>the</u> different device communicating via the remote node, wherein the different device is identified as communicating via the remote node and requesting a different PPP session; and

providing a broadband link at least partially interconnecting a communication network node and the remote node.

22. (Original) The method of claim 21, further comprising:

associating the remote node with a subscriber; and

maintaining subscriber information comprising an identification of the device and the different device.

23. (Canceled).

- 24. (Original) The method of claim 21, wherein the PPPoE packet comprises a PPPoE Active Discovery Initiation (PADI) packet.
 - 25. (Previously presented) The method of claim 22, further comprising: altering a cost of using the broadband link in response to recognizing an additional device communicating with the communication network node via the remote node.
 - 26. (Previously presented) The method of claim 22, further comprising: considering the subscriber information in connection with generating a marketing offer presentable to the subscriber.
 - 27. (Previously presented) The method of claim 22, further comprising: considering the subscriber information in connection with making a communication network planning decision.
 - 28. (Previously presented) The method of claim 22, further comprising: receiving a trouble-shooting request from the subscriber; and considering the subscriber information in connection with offering a suggestion responsive to the trouble-shooting request.
- 29. (Original) The method of claim 21, wherein the communication network node comprises a Broadband Remote Access Server.
 - 30. (Canceled).
 - 31. (Original) The method of claim 21, wherein the tag comprises a sixteen bit tag
- 32. (Original) The method of claim 21, wherein the tag comprises with a Host-Uniq TAG construct described in IETF RFC 2516.

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